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PATENT

BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of: :
PAUL R. HART : Group Art Unit: 1723
Serial No.: 10/719,567 : Confirmation No.: 3547
Filed: November 21, 2003 : Examiner: JOSEPH W. DRODGE
For: REMOVAL OF WATER : Docket No.: 194-27710-USCP
SOLUBILIZED ORGANICS : Date: September 13, 2007

BRIEF FOR APPELLANTS (37 CFR §41.37)

MS Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Appellants hereby submit their brief on appeal from the decision rendered by the Examiner finally rejecting claims: 1-4, 6-7 and 10-18 in the office action mailed May 16, 2007 (OFFICE ACTION), in furtherance of the Notice of Appeal filed July 16, 2007.

The fees required under 37 CFR §41.20(b)(2) for filing this brief are dealt with in the accompanying Transmittal. The Commissioner is authorized to charge any additional fees required for this communication to Deposit Account 02-0429 (194-27710-USCP Baker Hughes Incorporated).

The final page of this brief bears the attorney's signature.

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David L. Mossman

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is BAKER HUGHES INCORPORATED having a place of business at 2929 Allen Parkway, Suite 1200, Houston, Texas 77019-2118.

II. RELATED APPEALS AND INTERFERENCES

Appellants, their legal representative, and their assignee are unaware of any other appeals or interferences which will directly affect or would be directly affected by or have a bearing on the Board's decision in this pending appeal.

III. STATUS OF CLAIMS

The claims appealed are Claims 1-4, 6-7 and 10-18, which were finally rejected in the Office Action mailed May 16, 2007, and are reproduced in Appendix A. Of the remaining claims, Claims 5 and 8-9 have been cancelled.

IV. STATUS OF AMENDMENTS AFTER FINAL

There are no pending claim amendments.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claims on appeal are directed to:
IN INDEPENDENT CLAIM 1: A composition for removing solubilized organics from a water-like fluid phase. The composition consists essentially of a hydrophilic α -hydroxymonocarboxylic acid (AHA) and an anionic polymer. The composition has an explicit absence of a cationic emulsion breaker. In the composition, the weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1. This subject matter is found in the specification at:

Page 4, line 14 to page 15, line 2, paragraphs [0015-0018];

Page 5, lines 14-16, paragraph [0021];

Page 6, line 7 to page 7, line 9, paragraphs [0023-0025];
Page 7, line 16 to page 8, line 19, paragraphs [0027-0031];
Page 9, lines 18-22, paragraph [0033]; and
Page 13, lines 13-16, paragraph [0040].

IN INDEPENDENT CLAIM 10: A composition for removing solubilized organics from a water-like fluid phase. The composition consists essentially of a hydrophilic α -hydroxymonocarboxylic acid (AHA) having a degree of polymerization of above 30 and an anionic polymer. The composition has an explicit absence of a cationic emulsion breaker. The weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1. This subject matter is found in the specification at:

Page 4, line 14 to page 15, line 2, paragraphs [0015-0018];
Page 5, lines 14-16, paragraph [0021];
Page 6, line 7 to page 7, line 9, paragraphs [0023-0025];
Page 7, line 16 to page 8, line 19, paragraphs [0027-0031];
Page 9, lines 18-22, paragraph [0033]; and
Page 13, lines 13-16, paragraph [0040].

IN INDEPENDENT CLAIM 15: A composition that comprises a water-like fluid phase, at least one solubilized organic in the water-like fluid phase, and a composition for removing solubilized organics from a water-like fluid phase. The composition for removing solubilized organics from a water-like fluid phase consists essentially of an anionic polymer and a hydrophilic α -hydroxymonocarboxylic acid (AHA). The composition for removing solubilized organics has an explicit absence of a cationic emulsion breaker. The weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1. This subject matter is found in the specification at:

Page 4, line 14 to page 15, line 2, paragraphs [0015-0018];
Page 5, line 7, to page 7, line 9, paragraphs [0020-0025];
Page 7, line 16 to page 8, line 19, paragraphs [0027-0031];
Page 9, lines 18-22, paragraph [0033]; and
Page 13, lines 13-16, paragraph [0040].

VI. GROUNDS FOR REJECTION TO BE REVIEWED FOR APPEAL

The grounds for rejection to be reviewed for appeal are:

1. Whether the Examiner has established that claims 1-4, 6-7, and 10-18 are obvious under 35 U.S.C. §103(a) over U.S. Pat. No. 5,853,592 to Bellos, et al. in view of U.S. Pat. No. 5,045,212 to Augustin, et al. and further in view of U.S. Pat. No. 4,835,234 to Valint, et al.

VII. ARGUMENTS

To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker*, 977 F.2d 1443, 1445; 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). The Appellant respectfully submits that the Examiner has not met this initial burden and that the subject rejection should be withdrawn.

The standards for rejecting a claim as obvious may be recalled:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. §103(a). In putting the statutory language to practice, the MPEP states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must

both be found in the prior art and not based on appellant's disclosure.

MPEP §706.02(j) Contents of a 35 U.S.C. §103 Rejection, (citing) *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The Federal Circuit uses the Graham factors:

In order to determine obviousness as a legal matter, four factual inquiries must be made concerning: 1) the scope and content of the prior art; 2) the level of ordinary skill in the art; 3) the differences between the claimed invention and the prior art; and 4) secondary considerations of nonobviousness, which in case law is often said to include commercial success, long-felt but unresolved need, failure of others, copying, and unexpected results.

Ruiz v. A. B. Chance Co., 57 U.S.P.Q.2d 1161, 1165 (Fed. Cir. 2000) *citing* *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 U.S.P.Q. 459, 467 (1966); *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 877, 27 U.S.P.Q.2d 1123, 1128 (Fed. Cir. 1993).

A. Examiner's Rejection in Detail

The Examiner asserts that Bellos, et al. discloses treating aqueous, i.e. "water-like fluid phase" streams from oil well production fluids from which oil has been primarily initially separated.

The Examiner contends that Bellos, et al. discloses a composition, for separating water-soluble organics and water essentially consisting of a hydrophilic, hydroxymonocarboxylic acid, such as hydroxyacetic acid or AHA [asserted as inherently having the relatively high pKa of instant claims 2, 11 and 16 and chemical formulation of instant claims 3, 12 and 17], such organic acid optionally constituting essentially all or 99% of the active ingredient. The Examiner finds that Bellos, et al. also disclose that the composition may comprise a "minor amount" of one or more other ingredient such as a demulsifier.

The Examiner further finds that Bellos, et al. teaches that the demulsifiers may either be added separately or in combination with the feed or with the organic or inorganic acid.

The Examiner additionally contends that each of the amounts of each minor ingredients may constitute less than 1% by weight of the composition, hence giving a ratio of AHA to demulsifier of over 50:1, and that the composition may or may not be in the form of an aqueous solution before being mixed with oil/water mixture being treated.

With regard to the criticality of presence/absence of inorganic acid in the composition, Bellos, et al. is alleged by the Examiner to state that inorganic acid may be added to the fluid being treated separately from and after addition of the AHA organic acid.

The Examiner admits that the instant claims all differ in requiring the demulsifier to constitute an anionic polymer. However, the Examiner alleges that Augustin, et al. teaches to separate oil/water emulsions by anionic demulsifiers. The Examiner further notes that specifically, Augustin, et al. teaches in regard to crude oil production streams, to firstly add a cationic demulsifier to separate out much of the oil in a clarified oil phase, and then to further purify an aqueous phase stream from which the oil phase has been initially separated, by sequentially adding an amount of inorganic demulsifier and then an amount of anionic demulsifier that is an anionic polymer to the resulting aqueous phase to further clarify such aqueous phase (referring to col. 1, lines 45-61, col. 2, lines 14-21 and 45-68 and the Table bridging columns 3 and 4 indicating amounts of inorganic demulsifier and anionic polymeric demulsifier added to the aqueous phase).

The Examiner further finds that Valint, et al. also teaches separation of oil-in-water emulsions such as result in crude oil production and in metal working (col. 1, lines 30-55) and teach to sequentially add a cationic polymer or surfactant to break up most of the oil, followed by addition of anionic polymeric flocculants, and in the absence of intermediate steps of addition of inorganic demulsifier as in Augustin, et al.

Regarding the limitation that the composition is absent a cationic emulsion breaker, the Examiner asserts that each of Augustin (column 2, lines 46-62) and Valint (column 9, lines 9-59 and column 10, lines 15-34) teach that cationic emulsion breaker would already be present as a component of the emulsion treated when anionic demulsifier composition is added, thus not forming a part of

the anionic demulsifier composition. Such conclusion is further supported by Bellos (column 3, lines 20-26) concerning preliminary treatment of the oil well production fluids from which oil had already been primarily separated.

The Examiner contends that it would have been obvious to one of ordinary skill in the art to have employed an anionic demulsifier taught by Augustin, et al. as a demulsifier of Bellos, et al. when treating aqueous streams from which the largest quantity of oil has been primarily removed since these demulsifiers are shown to result in separated water phase, having an environmentally permissible very low degree of contamination with oily contaminants, and lower than other well known types of demulsifiers. The Examiner additionally alleges that it would have been obvious to have added, specifically, an anionic, polymeric demulsifier, to the composition applied by Bellos, et al., since Augustin, et al. teaches that this type demulsifier results in an aqueous phase resulting from crude oil production being sufficiently clarified to permit its discharge into an outfall ditch, thus meeting environmental standards. The Examiner contends and "conjectures" that adaptations of Augustin, et al. in the Bellos, et al. method envisions first adding a small amount of inorganic demulsifier followed by addition of an anionic polymer demulsifier/AHA blend, and then later followed by addition of an inorganic acid.

For claims 8 through 18, the Examiner finds that Bellos, et al. indicates a relatively high ratio of AHA to minor ingredient of demulsifier.

For claims 15-18, the Examiner asserts the composition may comprise also water-like fluid phase or water and other solubilized organics, such as organic wetting agents, that are soluble in the added water. The Examiner finds that Bellos, et al. discloses that if necessary, the composition is added to a fluid mixture being separated, including water and solubilized organics resulting in a mixture encompassing the water and organics being separated as well as the active organic acid ingredient and emulsifier.

For claims 2-4, 6 and 7, the Examiner contends that the claimed "AKA" values and particular claimed organic acids are disclosed in Bellos, et al. while Augustin, et al. generally teaches the specific anionic polymers claimed.

The Examiner further asserts that Augustin, et al. teaches the anionic polymer being copolymers of acrylic or methacrylic acid and acrylamides and

esters thereof for claims 4, 7, 13, and 18, and these having a high degree of polymerization as in claims 5, 6 and 14.

The Examiner further found that Appellant's arguments filed 03 April 2007 were considered but they are not persuasive.

The Examiner noted that it was argued that there was no suggestion in Augustin, et al. to choose an anionic polymeric demulsifier from amongst a wide array of demulsifiers. However, the Examiner asserts that the forementioned text sections of Augustin, et al., in combination with the newly cited Valint, et al. reference, allegedly teach that anionic demulsifier uniquely results in the previously treated and separated aqueous phase resulting from an original crude oil/water emulsified mixture having a low enough level of residual oil to be discharged to the environment.

The Examiner further found that the Appellant argued that Augustin, et al. requires that anionic co-polymers must be used *together* with cationic demulsifiers and other types of demulsifiers. The Examiner instead contends that Bellos, et al. also discloses treating aqueous phases from which the bulk of the oil has already been removed, rather than oil/water emulsions directly derived from crude oil production. Use of cationic demulsifier and inorganic demulsifier as taught by Augustin, et al. for treating the original oil/water emulsion would thus allegedly be in a separate stage from which the Bellos, et al. composition is added. In addition, in treating the resulting aqueous phase, the Examiner finds that Augustin, et al. teaches to add anionic polymer and inorganic demulsifier at separate times, with the amount of anionic polymer being added being a factor of 10 to 100 times greater than amount of the other demulsifier (Table of Augustin, et al.). The Examiner contends that it is important that Valint, et al. teaches the use of anionic polymer flocculant subsequent to previous use of cationic flocculant with no intervening use of inorganic demulsifiers or flocculants.

The Examiner noted that the Appellant argued that there is no motivation to choose anionic polymeric demulsifiers in preference to the other demulsifiers taught by Bellos, et al. The Examiner alleges that anionic polymeric flocculants are suggested in preference to the other demulsifiers taught by Augustin, et al.

1. since a chief embodiment of Bellos, et al. concerns treatment of aqueous phases from which the oil phase has already been removed,
2. since anionic polymeric flocculant are used in much larger quantity than other flocculants taught by Augustin, et al. and
3. since both references are ultimately concerned with final adequate removal of organic contaminants sufficient to allow the water use for re-injection into the wells or its disposal without requiring high cost waste treatment procedures.

The Examiner additionally finds that the Appellant argued that Appellant's composition treat oil/water emulsions by use of AHA and anionic polymeric flocculant without a need for use of cationic demulsifier as used in the applied prior art. The Examiner alleges both Bellos, et al. and Augustin, et al. as well as Valint, et al. teach that breaking/separating of oil/water emulsions and subsequent removal of soluble organics from water-like, mainly aqueous phases separated from the original emulsions. The Examiner contends that the claims do not preclude use of any other, diverse, material or composition from the oil/water emulsion or resulting separated phases, both preceding and following treatment with AHA and anionic polymeric demulsifier mix.

The Examiner finds that the Appellants argue that anionic polymers are ineffective as used in the prior art, except in the aftermath of prior treatment with cationic polymers. The Examiner acknowledges this reasoning, but asserts that the instant claims are merely disclosing a composition useful at some selected intermediate state of the process for removing solubilized organics from a water or aqueous phase, hence an overall sequence of process steps preceding or following addition of the composition are contended to be immaterial.

The Appellant respectfully traverses the rejection.

B. Bellos, et al. Requires a Strong Organic Acid and a Strong Mineral Acid

Bellos, et al. repeatedly and consistently discloses a composition containing a combination of a strong organic acid and a strong mineral acid (Abstract; Summary at column 3, lines 22-52, particularly lines 36-37; column 5,

line 48 to column 6, line 65 and independent claim 1 therein). The mineral acid may be phosphoric acid, phosphorous acid, sulfuric acid, sulfurous acid (column 5, lines 54-59). The organic acid may be oxalic acid, hydroxyacetic acid (glycolic acid), dichloroacetic acid (column 6, lines 25-27). Mineral acids are *always* required by Bellos, et al. as a component of the composition. There is nothing in Bellos, et al. (or in secondary references Augustin, et al. or Valint, et al.) that teaches or suggests that the mineral acid is not required in the Bellos, et al. composition or that it may be omitted to give a composition that is still effective for the stated purpose.

The invention as claimed herein excludes a mineral acid by virtue of the transitional language "consisting essentially of" language now present in all of the claims. The term "consisting essentially of" excludes ingredients that would materially affect the basic and novel characteristics of the claimed composition, but is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention. *AFG Indus. v. Cardinal IG Co.*, 239 F.3d 1239; 57 U.S.P.Q.2d 1776 (Fed. Cir. 2001). This is stated very clearly in a much more recent case:

✓ "Consisting essentially of" is a transition phrase commonly used to signal a partially open claim in a patent. Typically, "consisting essentially of" precedes a list of ingredients in a composition claim or a series of steps in a process claim. By using the term "consisting essentially of," the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention. A "consisting essentially of" claim occupies a middle ground between closed claims that are written in a "consisting of" format and fully open claims that are drafted in a "comprising" format. *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1354; 48 U.S.P.Q.2d 1351, 1353-54 (Fed. Cir. 1998).

Appellant respectfully submits that a composition that consists essentially of AHA and an anionic polymer that successfully removes water solubilized organics (WSOs) from water-like fluid phases was *unknown* prior to Appellant's discovery thereof. Such recited composition *excludes* mineral acids. Bellos, et al. *requires* the presence of mineral acids. There is nothing in Bellos, et al. (or in secondary references Augustin, et al. and Valint, et al.) that teaches or suggests

that the mineral acid is *not* required in or should be removed or may be removed from the Bellos, et al. composition and still give a composition effective for the goals and purposes of the invention. Thus, for this reason alone, no *prima facie* rejection of the claims has been made. The Appellant notes that this point was not addressed by the Examiner in the most recent Action.

C. Bellos, et al. Mentions Optional Demulsifiers but Does Not Teach Them for Typical Formulations

The Examiner admits that the instant claims all differ from Bellos, et al. in requiring an anionic polymer, and notes that column 6, line 66 to column 7, line 12 of Bellos, et al. mentions demulsifiers as minor, optional compositions. This portion of Bellos, et al. states:

Minor amounts of other composition may also be added. For example, an acid inhibitor such as a chemfilm or chemsorb may be included to protect metal surfaces in the system from acid attack. Corrosion inhibitors, demulsifiers, alcohol and wetting agents, may also be included. Therefore, a typical acid formulation of premixed phosphoric acid and hydroxyacetic acid might be prepared, by weight, from about 36% water, 42% phosphoric acid (75% aqueous solution), 19% hydroxyacetic acid (70% aqueous solution), about 2% acid inhibitor and less than 1% each of a corrosion inhibitor, a wetting agent and isopropyl alcohol. Thus, the solution comprises by weight about 52% water, 31% phosphoric acid, 13% hydroxyacetic acid and the minor ingredients. (Emphasis added.)

It is significant that although minor amounts of demulsifiers “*may also be included*”, in the “*typical acid formulation*” given, demulsifiers were not included. In fact, of the corrosion inhibitors, demulsifiers, alcohol and wetting agents listed that “*may also be included*”, a corrosion inhibitor, an alcohol and a wetting agent were included in the “*typical acid formulation*”, but *not* a demulsifier. The Appellant respectfully submits that thus Bellos, et al. in fact teaches away from using a demulsifier in a typical formulation. Indeed, in the composition of “Additive B” used in the Examples (Examples 1 and 2 in columns 9-10 of Bellos, et al., again a wetting agent, corrosion inhibitor *and* an alcohol were used but not a demulsifier.

The Appellant thus respectfully submits that although a minor amount of a demulsifier is optional for the acid compositions therein, it is clearly not a very

desirable or important part since it is not included in the Examples, nor in a "typical acid formulation". Further, lines 19-21 of the portion of column 7, lines 17-21, teach: "If high shear conditions are avoided, *a chemical demulsifier will not usually be needed.*" (Emphasis added.)

Thus, the Appellant respectfully submits that one having ordinary skill in the art reviewing the entirety of Bellos, et al. must conclude that a demulsifier is not important or desirable and should not be included. There would thus be no motivation for one of ordinary skill in the art to use a demulsifier of *any* kind in the Bellos, et al. compositions, and that in fact Bellos, et al. may be understood to *teach away from* including a demulsifier.

A reference which leads one of ordinary skill in the art away from the claimed invention cannot render it unpatentably obvious. *Dow Chemical Co. v. American Cyanamid Co.* 816 F.2d 617, 2 U.S.P.Q.2d 1350 (Fed. Cir. 1987); *In re Grasselli, et al.*, 713 F.2d 731, 218 U.S.P.Q. 269 (Fed. Cir. 1983); *In re Dow Chemical Co.* 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988).

The Board's attention is further respectfully directed to *In re Haruna, et al.*, 249 F.3d 1327, 1335; 58 U.S.P.Q. 2d 1517 (Fed. Cir. 2001):

"A prima facie case of obviousness can be rebutted if the applicant ... can show 'that the art in any material respect taught away' from the claimed invention." *In re Geisler*, 116 F.3d 1465, 1469, 43 U.S.P.Q.2d (BNA) 1362, 1365 (Fed. Cir. 1997) (quoting *In re Malagari*, 499 F.2d 1297, 1303, 182 U.S.P.Q. (BNA) 549, 533 (CCPA 1974)). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, ... would be led in a direction divergent from the path that was taken by the applicant." *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 U.S.P.Q.2d (BNA) 1294, 1298 (Fed. Cir. 1999).

For this second reason alone, and particularly when taken together with the other reasons, the Appellant respectfully submits that a *prima facie* case of obviousness has not been made herein.

D. Bellos, et al. and Augustin, et al. Do Not Teach or Suggest What Demulsifier Should Be Included in Bellos, et al.'s Compositions

As established above in section C, Bellos, et al. discloses only the very *general* possibility of adding "demulsifiers" to his acids; see column 4, line 2; and

column 7, line 2, lines 17-21, and in fact teaches away from their use in a typical formulation. However, independently of the above point, Bellos, et al. provides *no* indication what type or *kind* of demulsifier is suitable, appropriate or necessary. It is respectfully submitted that there is *no* mention, disclosure or suggestion of anionic, cationic, nonionic, polymeric, monomeric, organic, inorganic, hydrophilic, lipophilic, amphophilic, omniphilic, or any other kind or type of demulsifier. Thus, there is still no reason for one having only *ordinary* skill in the art to choose an *anionic polymer* from that extremely large universe of possibilities, based on the scant teachings of Bellos, et al. There is no hint or suggestion that any particular class would be any more appropriate than all the other possibilities, much less that an anionic polymer would be appropriate. No teaching, disclosure, mechanism or thesis is provided in Bellos, et al. to make this choice, but the single, highly imprecise, ambiguous word "demulsifier". It is respectfully submitted that one having ordinary skill in the art has no idea what demulsifier to use or why.

The Examiner admits that Bellos, et al. do not teach or suggest an anionic polymer, and turns to the teachings of Augustin, et al. The Appellant further respectfully submits that the Examiner has not made a *prima facie* case for combining the teaching of Bellos, et al. with that of Augustin, et al. to result in a composition *consisting essentially of* an AHA with *an anionic polymer in the absence of a cationic emulsion breaker* as required by the claims. Augustin, et al. teaches three different demulsifiers. There is no disclosure in any of the references of a composition containing *only* an *anionic* polymer with an AHA as the components establishing the basic and novel properties of the recited composition, particularly now in the more explicit absence of a cationic emulsion breaker. The Appellant would respectfully ask: Why would one having *ordinary* skill in the art add only an anionic polymer from Augustin, et al. instead of an inorganic emulsifier? Or instead of an organic cationic emulsifier? Those are also taught by Augustin, et al. From what one can tell there is no answer to these questions because the references give *no* reason why one having ordinary skill in the art would *know* to formulate such a composition.

A reason, suggestion or motivation to combine the teachings of the references *must* be present to support a *prima facie* rejection of obviousness.

Alza Corp. v. Mylan Laboratories, Inc. 391 F.3d 1365, 1372-1373; 73 U.S.P.Q.2d 1161, 1167 (Fed. Cir. 2004). Again, "...[T]he examiner has presented no line of reasoning ... as to why the artisan viewing only the collective teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention." *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (B.P.A.I. 1985). "The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) cited in *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention." *KSR International v. Teleflex*, 127 S.Ct 1727, 1741; 82 U.S.P.Q.2d 1385, 1396 (2007). The Appellant respectfully submits that here no reason has been identified that would prompt one having ordinary skill in the art to select an anionic polymer from other demulsifiers used in Augustin, et al., much less also avoid cationic emulsion breakers.

The Examiner contends that one of ordinary skill in the art would allegedly select an anionic polymer from Augustin, et al. to use in the Bellos, et al. composition because:

1. "a chief embodiment of Bellos concerns treatment of aqueous phases from which the oil phase has already been removed,"
2. "anionic polymeric flocculant are used in much larger quantity than other flocculants taught by Augustin" (compare the "Amounts" columns in the Table bridging columns 3 and 4 of this reference), and
3. "both references are ultimately concerned with final adequate removal of organic contaminants, sufficient to allow the water use for re-injection into the wells or its disposal without requiring high cost waste treatment procedures."

The Appellant respectfully submits that only point 2 is a possible and unique reason for choosing an anionic polymeric demulsifier from the others taught by Augustin, et al. because points 1 and 3 apply to all of the other demulsifiers of Augustin, et al. as well. Thus, if points 1 and 3 are considered, there is still no

reason for one having ordinary skill in the art to select an anionic polymer over the organic cationic demulsifiers and organic ionic demulsifiers and inorganic demulsifiers of Augustin, et al.

On the Examiner's point 2 that Augustin, et al. allegedly uses much larger amount of organic anionic polymer than their other two types and therefore it consists predominantly if not essentially of that first type, it is respectfully submitted that this reason as stated by the Examiner is factually incorrect. In the referenced Table bridging columns 3-4, the amount of organic anionic polymer is in "ppm" (parts per million), the others are in "wt%" (weight percent) and thus are not directly comparable. The amount of organic anionic polymer is never more than 1.4% [$1/(50+10+15)$] of the whole. The claims are clearer in this regard — using common units, the relative amounts from claim 1 of are:

Organic cationic demulsifier:	30 to 5,000 ppm
Inorganic demulsifier #1:	50 to 1,000 ppm
Inorganic demulsifier #2:	200 to 2,000 ppm
Organic anionic demulsifier:	0.3 to 4 ppm

Here again, the organic anionic demulsifier is at most 1.4% [$4/(30+50+200)$] and, taking the geometric mean, generally less than 0.1% [$1/(400+200+600)$] of Augustin, et al.'s treatment. The claim 1 proportions are consistent with those in column 2, lines 8-13 and 35-41 of this reference. Thus, one having ordinary skill in the art reviewing Augustin, et al. supposedly looking for a demulsifier to use in the Bellos, et al. compositions would in fact be *least* inclined to use an anionic polymer since Augustin, et al. through the proportions taught clearly indicates that an anionic polymer is the *least* important since less of it is used than the others. It is respectfully submitted that for this additional reason taken alone, the Examiner has not established a *prima facie* case of obviousness of the present claims. Appellant respectfully notes that the Examiner did not address this factual discrepancy in the latest Action, but instead repeated his same previous reasons why one having *ordinary* skill in the art would supposedly select the anionic demulsifier.

The Appellant respectfully submits that Valint, et al. provides no help in this regard. The Valint, et al. reference is simply and only another example of the standard and conventional prior art that the inventive composition is distinct from,

novel over and non-obvious from. The Appellant would respectfully point out the following sections from the Appellant's specification.

Cationic polymers might remove the 10-20% of the WSO associated with microemulsions in the produced water, where such emulsions exist. (Paragraph [0006], last sentence; emphasis added.)

Removing only 10-20% of the WSO is insufficient since 90-80% of the WSO remains, not removed by cationic polymers.

Nonacidic and cationic compounds have proven unreliable or incompatible with existing water clarifier treatments. (Paragraph [0009], last sentence; emphasis added.)

Unlike amines and other cationic compounds, the invented compounds have a wide treatment range and are compatible with existing water clarifier treatments.

Unlike the current art that uses cationic compounds in combination with acids, or anionic compounds without acids, this invention optionally employs anionic polymers in combination with acids. (Paragraph [0026], last sentence to first sentence paragraph [0027]; emphasis added.)

In one non-limiting embodiment of the invention, the AHA and the anionic polymer are the only components present in the inventive compositions that affect the characteristic or property of removing solubilized organics from water-like fluids. No other active components for this purpose are needed. (Paragraph [0029], first two sentences; emphasis added.)

The Board's attention is also respectfully directed to the following excerpts:

In one non-limiting embodiment of the invention, the AHA and the anionic polymer are the only components present in the inventive compositions that affect the characteristic or property of removing solubilized organics from water-like fluids. No other active components for this purpose are needed. (Paragraph [0029], first two sentences; emphasis added.)

The standard *cationic* reverse breaker used to remove these emulsions is then *no longer as complementary*, and may then go from being destabilizing to *being restabilizing* (overtreated). It is believed that adding an anionic polymer, *instead of or in addition to the standard cationic reverse emulsion breaker*, along with the AHA overcomes this problem and minimizes the O&G. (Paragraph [0033], emphasis added.)

as well as the last sentence in paragraph [0040] discussing the results of the GoM (Gulf of Mexico) Trial result II in Table IV: "Feeding additional anionic polymer (a methacrylic acid : methylmethacrylate : ethylacrylate terpolymer) *at the expense of the cationic REB* [reverse emulsion breaker] *brought the insoluble oil back down to 7 ppm and allowed further reductions in the total O&G.*" (Emphasis added.)

Appellant respectfully submits that Valint, et al. is simply cumulative of the standard practice against which the invention is contrasted, and does not add anything to the deficiencies of Bellos, et al. and Augustin, et al. previously established.

The Examiner's point seems to be that Valint, et al. refers to a prior art process that does not also add an inorganic demulsifier to the mix of cationic and anionic polymers as Augustin, et al. does. However, the Valint, et al. method still requires a cationic polymer be fed first, and only then can the anionic or nonionic polymer flocculate the result. Thus, in the absence of that cationic polymer, and prior to removing any oil it would have treated, would one having ordinary skill in the art choose an anionic polymer, of all things, to combine with the *least essential* part of Bellos, et al.'s WSO treatment? The Appellant respectfully submits that there is nothing in the art that teaches or suggests this, much less a composition that accomplishes the purpose of removing solubilized organics *without* the conventional and standard cationic emulsion breaker as a component at all.

The Appellant respectfully submits that nowhere in Augustin, et al. or Valint, et al. is there any suggestion that anionic polymers do anything except in the *aftermath* of a prior treatment with *cationic* polymers. The claimed composition contains *no cationic polymer*, and yet is completely effective, and the present claim language further emphasizes this distinction. Nor would the claimed composition ever be used following the addition of a cationic polymer or removal of any oil with a cationic polymer, as Valint, et al. refers to, because the oil in place is needed to absorb the desolubilized WSO, and the prior addition of a cationic polymer would either remove the oil or precipitate destructively the anionic polymer in the claimed composition on contact. Indeed, because of the

expected prior use of a cationic breaker in the conventional process, the Appellant respectfully submits that one having ordinary skill in the art would not think of the present, claimed composition because of the prior use of the cationic polymer. It may be useful to add a cationic polymer downstream, after the claimed composition has removed the WSO – the stated purpose of the invention having been accomplished, to help remove the oil that absorbed it, but neither Augustin, et al. nor Valint, et al. contemplates any such procedure. They both specifically teach that the cationic oil-removing compound be added *first*, a prelude incompatible with the recited composition, as presently recited. The claim language herein should not be construed as precluding such down stream use.

Valint, et al. is in fact prior art to Augustin, et al. and Augustin, et al.'s inclusion of inorganic demulsifiers is an attempt to overcome the problems with more conventional approaches such as Valint, et al.'s. The Board's attention is further respectfully directed to the above excerpts from the Appellant's specification as originally filed which defines procedures such as Valint, et al.'s as part of the prior art that the claimed invention overcomes.

E. The Teachings of Bellos, et al. and Augustin, et al. are Inconsistent with Each Other

On the Examiner's conjectured combination of Augustin, et al. and Bellos, et al., the Appellant respectfully submits even if one were practicing Augustin, et al.'s composition in a process that was then contaminated with some water soluble Oil & Grease of the type removed by Bellos, et al.' composition and thought therefore to add the Bellos, et al.' composition or method on top of Augustin, et al.'s, by adding a mostly mineral acid formula (1:1 to 3:1, column 6, 55-59 of Bellos, et al.) to Augustin, et al.'s first step (Bellos, et al.'s method requires a bulk oil phase to be present after the acid is added, so it can *not* be added to Augustin, et al.'s second step where the anionic polymer is added) — this seemingly obvious combination would result in *neither* method working, for the reason set out in the Appellant's specification — that the di- and multivalent metal salts of Augustin, et al.'s first step are *incompatible* with Bellos, et al.'s mineral acids, and would thus precipitate a fouling deposit on mixing. In short,

one cannot simply combine these two prior art compositions or processes and even hypothetically end up with the presently claimed composition. An obviousness rejection is invalid if combining references as the examiner suggests would destroy them for their intended purpose; *Ex parte Westphalen*, 159 U.S.P.Q. 507 (Bd. App., 1967).

In other words, the Appellant respectfully submits that one having ordinary skill in the art would have to “cherry-pick” the *least* essential component of Augustin, et al. and the *less* essential component of Bellos, et al. *and leave out their other components* — because to include them results in the unacceptable formation of a fouling inorganic precipitate, which it is a purpose of the present invention to *avoid* (see, for instance, paragraph [0033] as published, which is paragraph [0026] as filed: “Compared to this, the inventive compounds are far less corrosive under usage conditions, equally non-volatile, and completely non-scaling.” and paragraphs [0076] and [0077] and Table VII as published (paragraphs [0042-0043] as filed)). No reason is given by the Examiner for leaving the other ingredients out or for believing either process would work unless all ingredients were included. That is, no reason is given in the references for excluding the required mineral acids of Bellos, et al. or for excluding the required organic cationic demulsifiers or the required inorganic demulsifiers of Augustin, et al. Further through the use of the “consisting essentially of” transition language, the claimed composition inherently excludes mineral acids.

The Appellant respectfully submits that the “consisting essentially of” language and the previously added recitation “in the absence of a cationic emulsion breaker” also exclude Augustin, et al.’s cationic polymers, since they are incompatible with the claimed anionic polymers, again forming an insoluble coacervate on mixing. *That is why Augustin, et al. adds them in separate steps*, letting one react with the oil before the other is added. Otherwise a precipitate will form.

The Appellant respectfully submits that Valint, et al. does not add any further teaching to rectify these deficiencies. The Examiner cites Valint, et al. for its teaching that there are no intervening inorganic demulsifiers after the use of a cationic flocculant and before an anionic polymer flocculant, but Valint, et al. still teaches a cationic flocculant that is not required or desired or necessary in the

claimed composition. For this further reason, taken alone, the Appellant respectfully submits that a *prima facie* obviousness rejection has not been made.

F. Uniquely Simple Combination of Anionic Polymer with AHA not Taught by Bellos, et al. combined with Augustin, et al. and/or Valint, et al.

As shown previously through the excerpts from Appellant's specification, the Appellant has discovered that it is the specific combination of anionic polymer to AHA, particularly with an excess of AHA, that gives a uniquely simple composition permitting the simple method already the subject of the parent application that matured into U.S. Pat. No. 6,695,968. The Appellant would respectfully note that all of the present composition claims require an *anionic* polymer. The Examiner essentially admits that Bellos, et al. do not teach or suggest an anionic polymer, and turns to the teachings of Augustin, et al. and Valint, et al.

As established above, the additional recitation of Valint, et al. does not supply the deficiencies of Augustin, et al. Valint, et al. is directed to novel hydrophobically associating terpolymer compositions containing *cationic* functionality (Abstract therein). Indeed, Valint, et al. is almost entirely focused on and concerned with cationic polymers, and contains very little teaching with respect to anionic polymers. The Appellant would respectfully direct the Examiner's attention to the last portion, column 9, lines 40-59, of a section noted by the Examiner:

Cationic polymers or surfactants are used to neutralize the surface charge. Once the charge is neutral the droplets may begin to approach each other and agglomerate or coalesce since the electrostatic repulsion responsible for a significant portion of the emulsion's stability has been eliminated. Eventually large floc formation or liquid oil formation occurs. Once the droplets begin to flocculate they can begin to float since they are much larger than the starting oil droplets. As they grow in size they will rise to the surface of the water at a faster rate. If a high molecular weight cationic polymer is used for charge neutralization, the polymer will accelerate the separation of the oil since the polymer is attracted to the oil droplet by coulombic attraction, hydrogen bonding or other mechanisms. In some cases low molecular weight cationic chemicals are added for charge control and then high molecular weight nonionic or anionic polymers are added next to cause

polymer bridging between droplets and accelerate floc formation.
(Emphasis added.)

The Appellant respectfully submits that this is exactly the kind of conventional treatment using cationic polymers that the inventive composition is *distinct from*. The Appellant again respectfully directs the Board's attention to the excerpts from the specification quoted above in section D. The further amendments to the claims that the composition has "an absence of a cationic emulsion breaker" additionally distances the claimed invention from the teachings of Valint, et al. and Augustin, et al. Valint, et al. teaches that their cationic polymers are absolutely necessary in a waste water treatment, e.g. (column 6, lines 11-14 and 37-54 therein).

It is again respectfully submitted that Augustin, et al. does not clarify the situation or add anything to the understanding of it for one having only *ordinary* skill in the art. Augustin, et al. teaches that anionic acrylic copolymers are included in the class of organic anionic demulsifiers that *must be used in combination with inorganic* anionic demulsifiers, organic *cationic* demulsifiers, and *inorganic cationic* demulsifiers in the sequence specified (not all together) to remove insoluble oil from water. Augustin, et al. is consistent with the conventional wisdom in teaching that all must be used in combination and correct sequence (not mixed together except as noted), and repeats this combination many times.

There is no mention or implicit inclusion in Augustin, et al. of *any* kind of acid, organic or inorganic, among the variety of species taught. Bellos, et al. in contrast, *requires* the use of a mineral acid. For this additional reason, similar to the reason established in section E *supra*, combining the references would destroy them for their intended purposes since one requires a mineral acid and the other does not. Thus, it is respectfully submitted that there is no reason for one of only *ordinary* skill to pluck out from this broad, almost all-inclusive list of Augustin, et al. some anionic acrylic copolymers taught in very minor proportions to use without the other three types of chemicals and form a combination instead with something else entirely different.

The Appellant *does* understand that Augustin, et al. is using them sequentially. Appellant's position is that there is nothing in the references that

teaches a composition as claimed containing AHA (e.g. glycolic acid) together with an anionic polymer as the only effective components of a composition necessary to remove solubilized organics) (claims 1-5, 6-7, and 10-14) or a composition as claimed containing an AHA together with an anionic polymer together with at least one solubilized organic and a water-like fluid phase (claims 15-18). For these additional reasons taken alone (or together with the previous ones), the Appellant respectfully submits that a *prima facie* obviousness rejection has not been made.

G. Anionic Polymers Per Se do not Remove Oil Emulsified in Water

It is respectfully submitted that the Examiner may not realize that anionic polymers *per se* do not remove oil emulsified in water. No one, particularly Valint, et al., Augustin, et al. or Bellos, et al. ever claims or teaches that they do or claims or teaches that they ever do – unless, of course, a cationic surface modifier is added *first*. The anionic polymers are “known demulsifiers” *only* in the context or matrix of a *previously cationized* emulsion – for *exactly* the reasons taught by Valint, et al. in the excerpt quoted above from column 9, lines 40-59.

The reason is that droplets of petroleum oil in water have an anionic surface charge (as shown, for example, by their negative zeta potential or their titration with cationic dyes). It is respectfully submitted that this is common knowledge. The Board’s attention is respectfully directed to Valint, et al., column 9, lines 36-45, cited by the Examiner in the Action:

By way of example, *oil droplets emulsified in water generally carry a negative surface charge or zeta potential* which helps to stabilize the emulsion, keeping the droplets dispersed and making them difficult to resolve or break. *Cationic polymers or surfactants are used to neutralize the surface charge*. Once the charge is neutral the droplets may begin to approach each other and agglomerate or coalesce since the electrostatic *repulsion* responsible for a significant portion of the emulsion's stability has been *eliminated*. (Emphasis added.)

That is, unless the surface is somehow first cationized, anionic polymers are repelled from the surface and do not interact with it to create mutual attraction of droplets. Appellant respectfully submits that a composition that consists essentially of AHA and an anionic polymer that has an absence of a cationic

emulsion breaker which successfully removes WSOs from water-like fluid phases was unknown prior to Appellant's discovery thereof.

The whole novelty of the Augustin, et al. treatment is said to be finding a way to use the otherwise ineffective anionic polymers, instead of only the usual cationic polymers, as represented by the entirely conventional Valint, et al. reference. The Board's attention is respectfully directed to Augustin, et al. column 1, lines 15-20. This is done in Augustin, et al. by first cationizing the emulsion with cationic, surface adsorbing, divalent metal cations:

Until now, o/w emulsions have been separated using single-step processes in which to the o/w emulsions are added either inorganic demulsifiers or organic cationic demulsifiers (cf., for example, EP-A-186,029) or else first organic cationic demulsifiers are added followed by inorganic demulsifiers (modified Windsor process. [sic]

The surface groups are converted from $|-COO^-$ to $|-COOCa^+$. Only then will the anionic polymers perform. Thus, while it is true that Augustin, et al.'s anionic "demulsifier results in an aqueous phase ... sufficiently clarified to permit its discharge" within the context of the teaching, Augustin, et al. teaches *only* that *following a pretreatment with a multivalent metal cation salt*, an anionic polymer that would not *otherwise* have clarified water at all, produces sufficient clarity for discharge.

Moreover, (in disagreement with and contrast to Bellos, et al.) the claimed composition should be added before the bulk oil and water are separated (Augustin, et al.'s Step 1) in order to remove water solubilized organics. Augustin, et al.'s anionic polymer must be added after the bulk oil and water separation and *after* a series of three *other* demulsifiers have also been added. It should be understood that Augustin, et al.'s treatment would *not* work if the anionic polymer were added as the *first* composition in mixed production rather than the *last* composition just prior to discharge. Valint, et al. is consistent with this understanding. The Appellant respectfully submits that it is *not* obvious to one having *ordinary* skill in the art that the claimed co-formulation with an α -hydroxy hydrophilic acid would allow the addition order and substrate treated to be completely *reversed* to the manner of Bellos, et al. It is the novel and

surprisingly simple composition claimed herein that permits these methods to work and be correspondingly simple. The methods are discussed herein only for the purpose of emphasizing the unique nature of the claimed composition.

It is respectfully submitted that an important part of the Appellant's invention is the discovery is that, while acids are generally considered to be anionic (thus polyacids are anionic polymers), if the proton donating power is strong enough to protonate the prevailing surface acid (through α -hydroxy activation) and the conjugate base is hydrophilic enough (specific supporting criteria are given in the specification) to stay hydrated and not adsorb onto the surface, then these supposedly *anionic* additives can actually have a *cationizing* effect of a magnitude similar to the pre-addition of multivalent cation salts – but *without* having to employ these cationic salts. It is respectfully submitted that this idea is not referenced elsewhere in the literature and in particular not suggested, disclosed or hinted at by the cited art; thus these unique and spare compositions are Appellant's unique and non-obvious contribution to the art.

To stress this important understanding of the invention, claim 1 was previously amended to recite that the weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1. The greater presence of the AHA emphasizes its importance to the claimed composition as noted above. And further, the claims were most recently amended to recite that the composition has an absence of a cationic emulsion breaker.

For these additional reasons, taken alone or together with the others established previously, the Appellant respectfully submits that a *prima facie* obviousness rejection has not been made.

H. There is No Motivation for Combining the References as Supposed by the Examiner

The Appellant further respectfully submits that the Examiner has not made a *prima facie* case for combining the teaching of Bellos, et al. with that of Augustin, et al. and/or Valint, et al. to result in a composition *consisting essentially of* an AHA with an anionic polymer *in the absence of* a cationic emulsion breaker as required by the claims. Augustin, et al. teaches three

different demulsifier classes. Valint, et al. requires a cationic polymer. Bellos, et al. requires the use of a strong organic acid and a strong mineral acid.

"Our reviewing courts have often advised the Patent and Trademark Office that it can satisfy the burden of establishing a *prima facie* case of obviousness *only* by showing some *objective* teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that 'would lead' that individual 'to combine the relevant teachings in the references.' Accordingly, an examiner *cannot* establish obviousness by locating references which describe aspects of a patent applicant's invention without *also* providing *evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done.*" (Citations omitted; emphasis added.) *Ex parte Levengood*, 28 U.S.P.Q.2d 1300, 1302 (B.P.A.I. 1993).

The Appellant would respectfully submit that there is nothing in Bellos, et al., Augustin, et al. or Valint, et al. or the combination thereof that would impel one having *ordinary* skill in the art to make the limited, "consisting essentially of" 2-component combination supposed obvious by the Examiner. There is *no* hint in Augustin, et al. that that the class of demulsifier disclosed as being used in the *least* amount would be more appropriate than all the others mentioned. There is *no* hint in Valint, et al. that the anionic polymer barely mentioned should be used *instead of* the required cationic polymer that dominates the reference. There is no mechanism or thesis provided to connect the three references, but the single, highly ambiguous general word "demulsifier" in Bellos, et al., it is respectfully submitted – and even then Bellos, et al. prefers not to use an emulsifier of any type in a "typical" acid formulation or their Examples. Nor is there any reason or motivation given in any reference that would *impel* one having ordinary skill in the art to delete the mineral acid taught as required by Bellos, et al. Again, one having ordinary skill in the art essentially has no idea what to use or why if the references are supposedly combined – for which there is no clear motivation.

VIII. PRAYER FOR RELIEF

It is respectfully submitted that the rejections of the claims have been overcome and/or avoided by the arguments presented above. It is further

respectfully requested that the Board reverse the final rejections of the Examiner and that the application be advanced to allowance and issue. The Examiner and/or the Board are encouraged to call the Appellants' attorney at the number below for any reason that may advance prosecution of the case.

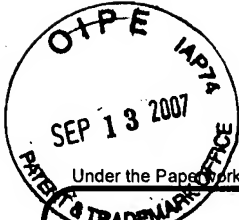
Respectfully submitted,
PAUL R. HART,

A handwritten signature in black ink, appearing to read "David L. Mossman", written over the typed name.

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL

For FY 2007

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) \$500.00

Complete if Known

Application Number	10/719,567
Filing Date	NOVEMBER 21, 2003
First Named Inventor	PAUL R. HART
Examiner Name	JOSEPH W. DRODGE
Art Unit	1723
Attorney Docket No.	194-27710-USCP

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☒ Deposit Account Deposit Account Number: 02-0429 Deposit Account Name: Baker Hughes Incorporated

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☒ Charge fee(s) indicated below☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17☒ Credit any overpayments

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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180
Total Claims	Extra Claims	Fee (\$)
- 20 or HP = _____ x _____ = _____		
HP = highest number of total claims paid for, if greater than 20.		
Indep. Claims	Extra Claims	Fee (\$)
- 3 or HP = _____ x _____ = _____		
HP = highest number of independent claims paid for, if greater than 3.		

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 = _____ / 50 = _____ (round up to a whole number) x _____ = _____				

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Filing Appeal Brief. Fee Code 1402. 37 CFR 41.20(b)(2)

Fees Paid (\$)

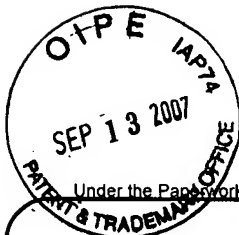
\$500.00

SUBMITTED BY

Signature	<u>David L. Mossman</u>	Registration No. (Attorney/Agent) 29,570	Telephone 512/219-4026
Name (Print/Type)	David L. Mossman		Date September 13, 2007

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

59

Application Number

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First Named Inventor

PAUL R. HART

Art Unit

1723

Examiner Name

JOSEPH W. DRODGE

Attorney Docket Number

194-27710-USCP

ENCLOSURES (Check all that apply)



Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)



Reply to Missing Parts/
Incomplete Application



Reply to Missing Parts
under 37 CFR 1.52 or 1.53



Drawing(s)



Licensing-related Papers



Petition



Petition to Convert to a
Provisional Application



Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____

☐ Landscape Table on CD



After Allowance Communication to TC



Appeal Communication to Board
of Appeals and Interferences



Appeal Communication to TC
(Appeal Notice, Brief, Reply Brief)



Proprietary Information



Status Letter



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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Madan, Mossman & Sriram, P.C.

Signature

Printed name

David L. Mossman

Date

September 13, 2007

Reg. No.

29,570

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David L. Mossman

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September 13, 2007

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APPENDIX A – CLAIMS ON APPEAL

1. (previously presented): A composition for removing solubilized organics from a water-like fluid phase consisting essentially of:

a hydrophilic α -hydroxymonocarboxylic acid (AHA); and

an anionic polymer,

in the absence of a cationic emulsion breaker,

where the weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1.

2. (original): The composition of claim 1 where the AHA has a pK_a of greater than 3.8.

3. (original): The composition of claim 1 where the AHA has the structure $RR'C(OH)COOH$ where

R and R' are independently selected from the group consisting of hydrogen and nonacidic hydrocarbonaceous groups, with the proviso that

$$n^H + 0.5(n^C) - 7(n^O) < 15(n^{OH})$$

where n^H = the total number of hydrogens on carbons,

n^C = the total number of carbons,

n^O = the total number of oxygens not attached to hydrogens, and

n^{OH} = the total number of $-OH$ groups in the molecule.

4. (original): The composition of claim 1 where the anionic polymer is selected from the group consisting of poly(acrylic acid) and poly(methacrylic acid) and salts thereof, poly(acroyl sulfonic acid) and poly(vinyl sulfonic acid) and salts thereof, and copolymers of the aforementioned polymers with acrylic amides and esters, and mixtures thereof.

5. (canceled)

6. (original): The composition of claim 1 where the anionic polymer has a degree of polymerization between 3000 and 300,000.

7. (previously presented): The composition of claim 3 where the anionic polymer is selected from the group consisting of poly(acrylic acid) and poly(methacrylic acid) and salts thereof, poly(acryloyl sulfonic acid) and poly(vinyl sulfonic acid) and salts thereof, and copolymers of the aforementioned polymers with acrylic amides and esters, and mixtures thereof.

8-9. (canceled)

10. (previously presented): A composition for removing solubilized organics from a water-like fluid phase consisting essentially of:

a hydrophilic α -hydroxymonocarboxylic acid (AHA) having a degree of polymerization of above 30; and

an anionic polymer,

in the absence of a cationic emulsion breaker,

where the weight ratio of AHA to anionic polymer in the composition ranges from over 50:1 to 10,000 to 1.

11. (original): The composition of claim 10 where the AHA has a pK_a of greater than 3.8.

12. (original): The composition of claim 10 where the AHA has the structure $RR'C(OH)COOH$ where

R and R' are independently selected from the group consisting of hydrogen and nonacidic hydrocarbonaceous groups,

with the proviso that

$$n^H + 0.5(n^C) - 7(n^O) < 15(n^{OH})$$

where n^H = the total number of hydrogens on carbons,

n^C = the total number of carbons,

n^O = the total number of oxygens not attached to
hydrogens, and

n^{OH} = the total number of $-OH$ groups in the molecule.

13. (original): The composition of claim 10 where the anionic polymer is selected from the group consisting of poly(acrylic acid) and poly(methacrylic acid) and salts thereof, poly(acroyl sulfonic acid) and poly(vinyl sulfonic acid) and salts thereof, and copolymers of the aforementioned polymers with acrylic amides and esters, and mixtures thereof.

14. (original): The composition of claim 10 where the anionic polymer has a degree of polymerization between 3000 and 300,000.

15. (previously presented): A composition comprising:

a water-like fluid phase;

at least one solubilized organic in the water-like fluid phase; and

a composition for removing solubilized organics from a water-like fluid
phase consisting essentially of:

an anionic polymer; and

a hydrophilic α -hydroxymonocarboxylic acid (AHA),

in the absence of a cationic emulsion breaker,

where.

16. (original): The composition of claim 15 where the AHA has a pK_a of greater than 3.8.

17. (original): The composition of claim 15 where the AHA has the structure $RR'C(OH)COOH$ where

R and R' are independently selected from the group consisting of
hydrogen and nonacidic hydrocarbonaceous groups,
with the proviso that

$$n^H + 0.5(n^C) - 7(n^O) < 15(n^{OH})$$

where n^H = the total number of hydrogens on carbons,

n^C = the total number of carbons,

n^O = the total number of oxygens not attached to
hydrogens, and

n^{OH} = the total number of $-OH$ groups in the molecule.

18. (original): The composition of claim 15 where the anionic polymer is selected from the group consisting of poly(acrylic acid) and poly(methacrylic acid) and salts thereof, poly(acroyl sulfonic acid) and poly(vinyl sulfonic acid) and salts thereof, and copolymers of the aforementioned polymers with acrylic amides and esters, and mixtures thereof.

APPENDIX B – EVIDENCE

– No evidence is presented. –

APPENDIX C – RELATED PROCEEDINGS

– There are no related proceedings. –